Listing of the Claims:

1. (Currently Amended) A method of deactivating biological or chemical agents in a large volume space with a convoluted configuration, the method comprising:

isolating the space;

introducing a deactivation gas concurrently into each of a plurality of subregions of the isolated space, which subregions are interconnected and open to each other in such a manner that air flows between the subregions;

circulating the deactivation gas within each subregion;

circulating the deactivation gas from a subregion to its adjoining subregions;

sensing concentrations of the deactivation gas at a plurality of points around the isolated space;

based on the sensed concentrations, with a computer processor controlling the introducing of the deactivation gas, and the circulating of the deactivation gas from subregion to adjoining subregion using flow dynamics modeling such that the deactivation gas concentration in each of the subregions is maintained above a preselected minimum concentration and below a preselected maximum concentration including:

in response to sensing that the concentration of deactivation gas in one of the subregions is approaching a saturation level or condensation point, at least one of lowering a rate at which the deactivation gas is supplied to the corresponding subregion and increasing the circulation of the deactivation gas from the corresponding subregion to neighboring regions, and

in response to sensing that the concentration of decontamination gas in one of the subregions has less than a preselected concentration, at least one of increasing a rate at which the deactivation gas is supplied to the corresponding subregion, decreasing an exhause rate of the deactivation gas from the subregion, and

directing the decontamination gas to the corresponding subregion from neighboring subregions; and,

continuing to introduce and circulate the deactivation gas until any biological or chemical agents in the space are deactivated.

2. (Previously Presented) The method according to claim 3, further including:

exhausting air, spent deactivation gas, and deactivation gas from the space; and,

trapping any entrained biological or chemical agent in the exhausted air, spent deactivation gas, and deactivation gas.

3. (Previously Presented) The method according to claim 1, wherein controlling the circulation of the decontamination gas from subregion to adjoining subregion includes controlling each of a plurality of circulation fans which move the decontamination gas from one of the subregions to an adjoining subregion.

4. (Previously Presented) The method according to claim 1, further including:

sensing temperature at a plurality of locations around the space and in each of the subregions; and,

wherein the preselected maximum concentration in each subregion is a saturation or condensation concentration at the sensed temperature in the subregion.

5. (Cancelled)

6. (Previously Presented) The method according to claim 1, wherein the sensing includes:

altering a resonance frequency, a capacitance, or other electrical property of a sensing element with the deactivation gas.

7. (Original) The method according to claim 1 wherein the deactivation gas includes hydrogen peroxide vapor.

8. (Original) The method according to claim 1 wherein introducing the deactivation gas includes:

vaporizing a liquid deactivation concentrate to generate the deactivation gas.

9. (Currently Amended) The method according to claim 8 wherein the vaporizing step is performed by one or more of:

at a plurality of generators built into the space;

at portable generators movably placed within the space.

10. (Original) The method according to claim 2 further including: before introducing the deactivation gas, exhausting to bring the space at a negative pressure.

11. (Cancelled)

12. (Previously Presented) The method according to claim 1 further including:

with a computer processor, controlling the introduction and circulation of the deactivation gas into and between the subregions such that the concentration of the decontamination gas throughout the space is maintained above a preselected minimum concentration and below a preselected maximum concentration in each subregion.

13. (Previously Presented) The method as set forth in claim 1, wherein the preselected maximum concentration is a saturation or condensation concentration at the sensed temperature.

14. (Cancelled)

15. (Previously Presented) The method according to claim 19, wherein the deactivation gas includes hydrogen peroxide vapor.

16. (Previously Presented) The method according to claim 19, wherein introducing the deactivation gas includes:

vaporizing a liquid deactivation concentrate to generate the deactivation gas.

17. (Previously Presented) The method according to claim 16, wherein the vaporizing step includes one of:

vaporizing the concentrate within an HVAC system for heating and cooling the space;

vaporizing the concentrate with a plurality of vaporizers built into the space;

vaporizing the concentrate in portable generators movably placed within the space.

18. (Currently Amended) The method according to claim 29, ~~wherein the exhaust~~ further including:

controlling fans to exhaust air, spent deactivation gas, and deactivation gas from the space; [[,]] ~~and further including~~[[:]]

trapping entrained biological or chemical agent in the exhausted air, spent deactivation gas, and deactivation gas.

19. (Currently Amended) A method of deactivating biological or chemical agents in a large volume isolated space having a plurality of subregions which are physically interconnected with a convoluted configuration, the method comprising:

isolating the space;

introducing a deactivation gas into [[a]] the plurality of subregions of the isolated space[[,]] ~~which subregions are physically interconnected~~;

circulating the deactivation gas within each subregion and from subregion to adjoining subregions;

continuing to introduce and circulate the deactivation gas until any biological or chemical agents in the space are deactivated;

exhausting air, spent deactivation gas, and deactivation gas from the space;

trapping any entrained biological or chemical agent in the exhausted air, spent deactivation gas, and deactivation gas;

employing a plurality of ~~exhaust~~ fans for exhausting the air, spent deactivation gas, and deactivation gas at a plurality of locations within the isolated space and for circulating the deactivation gas among the subregions; and

with a computer, controlling the ~~exhaust~~ fans using flow dynamics modeling to control flow of the deactivation gas ~~along and around the space~~ among the subregions including:

in response to a concentration of the deactivation gas in one subregion approaching a saturation level or a condensation point, controlling the fans to increase a flow of the deactivationg as from the one subregion to neighboring subregions, and

in response to the concentration in the subregion falling below a selected minimum, directing the decontamination gas to the one subregion from neighboring subregions.

20. (Previously Presented) The method according to claim 1, further including:

automatically closing doors to isolate the space from the environment before introducing the deactivation gas.

21. (Currently Amended) The method according to ~~claim 14~~ claim 1, wherein the space is an elongated space and includes multiple interconnected floors with a free flow of air between floors.

22. (Previously Presented) The method according to claim 21, wherein the space includes an airport concourse.

23. (Previously Presented) The method according to claim 21, wherein the space includes a wing of a building including corridors, individual offices or rooms, cubicles, or laboratories.

24. (Previously Presented) The method according to claim 21, wherein the circulating step includes:

controlling a speed and orientation of a plurality of fans to move the deactivation gas between the subregions to maintain a concentration of the deactivation gas between a preselected minimum and a preselected maximum throughout the space.

25. (Currently Amended) The method as set forth in ~~claim 14~~ claim 1, wherein each of the sensors includes:

an electrical element whose electrical properties are altered in accordance with at least concentration of the deactivation gas.

26. (Previously Presented) The method according to claim 1, wherein the sensing step includes:

passing the decontamination gas over a coating on at least one surface of a piezoelectric resonator having a characteristic resonance frequency, which coating interacts with the deactivation gas and changes the resonance frequency of the resonator in accordance with a concentration of the deactivation gas;

determining the concentration of the deactivation gas from the changed resonance frequency.

27. (Withdrawn) The method according to claim 25 wherein the sensor includes:

a pair of capacitive plates between which deactivation gas is passed such that a dielectric constant of the space between the dielectric plates varies in accordance with a concentration of the deactivation gas.

28. (Previously Presented) The method according to claim 25 wherein the sensor includes:

a resonator whose resonance frequency changes in accordance with a concentration of the deactivation gas.

29. (Currently Amended) A method of deactivating biological or chemical agents in a large volume space with a plurality of fluidly interconnected subregions among which subregions air flows freely, the method comprising:

isolating the space;

with a computer, monitoring each of a plurality of deactivation gas concentration sensors around the space;

with the computer, performing flow dynamic modeling routine;

with the computer, controlling deactivation gas generator in accordance with the flow dynamics modeling routine to ~~introduce~~ control a distribution of a deactivation gas [[into]] among the subregions[[;]] including:

in response to the sensors sensing that a concentration in one or more high concentration subregions is approaching a saturation level or a condensation point, reducing a supply of the deactivation gas to the high concentration subregions and drawing the deactivation gas from the high concentration subregions to other subregions, and

in response to the sensors sensing that the concentration in one or more low concentration subregions is approaching a selected minimum concentration, increasing the supply of the deactivationg as to the low concentration subregions and drawing decontamination gas from other subregions into the low concentration subregion.

~~with the computer, controlling exhaust fans in accordance with the flow dynamics modeling routine for drawing deactivation gas out of the space;~~

~~with the computer, controlling circulation fans to circulate the deactivation gas around the space and from subregion to subregion in accordance with the sensed deactivation gas concentrations and the dynamic flow modeling routine.~~

30. (Cancelled)

31. (Previously Presented) A computer control system for controlling deactivation of biological and chemical agents in a large volume space with a convoluted configuration, the computer control system including a processor which is programmed to perform the method according to claim 1.

32. (Cancelled)

33. (Previously Presented) A computer control system for controlling deactivation of biological and chemical agents in a large volume space with a convoluted configuration, the computer control system including a processor which is programmed to perform the method according to claim 19.

34. (New) The method as set forth in claim 1, wherein the flow dynamics modeling includes taking into account interactions between subregions of a hermetically sealed zone defined by a plurality of subregions.

35. (New) The method as set forth in claim 1, wherein the flow dynamics modeling includes redirecting circulation to accelerate dispersal of the decontamination gas from subregions with higher concentrations to subregions with lower concentrations.